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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,951	10/24/2000	Eugenie Charriere	004900-188	8720

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EXAMINER
SERGENT, RABON A

ART UNIT	PAPER NUMBER
1711	4

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/673,951	Applicant(s) Charriere et al.
	Examiner Rabon Sergent	Art Unit 1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *24-58* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *24-58* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *1*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

2. Claims 24-58 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear with respect to what reactions or products are encompassed by applicants' terms; "tricondensate", "tricondensates", "tricondensation reaction", "(cyclo)condensation", "(cyclo)condensating", "true or derived isocyanate function", "true tricondensate", "true isocyanurate polyisocyanate", and "true trimer". Furthermore, within claims 24 and 25, it is unclear how the limitation pertaining to "another monomer" relates to the (cyclo)condensation or (cyclo)trimerization reactions. Lastly, applicants have included biurets within the structures encompassed by tricondensate polyfunctional isocyanates and have included them within the compounds produced by (cyclo)condensation or (cyclo)trimerization reactions; however, applicants have failed to clearly teach how these reactions are to proceed or how biurets fall within the definition of tricondensates. Applicants specifically recite biurets as being produced by a trimerization reaction; however, a biuret is not considered to be a trimer group and is not produced by trimerization reactions, as accepted within the art.

3. Claims 24-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to all of the claims, it is unclear how the term, "tricondensate", further limits or modifies "polyfunctional (poly)isocyanate(s)" or "allophanates".

Within line 7 of claim 24, lines 7 and 8 of claim 25, and lines 1 and 2 of claim 26, it is unclear which polyfunctional isocyanate(s) are being referred to.

Within claim 25, it is unclear what is meant by (cyclo)trimerization. It appears that "cyclo" is intended to be optional; however, the trimerization of isocyanates yields cyclic compounds.

Within claims 26 and 28, the use of the suffix, "-based", renders the claim indefinite, because it is unclear to what extent the group is derived from hydrocarbons. Further, the language, "as well as" and "other atoms (O, S, Si, etc.)" renders the claim indefinite, because it is unclear if or to what extent the language denoted by "as well as" and the atoms within parentheses further limit the broad language. Also, the use of "may" renders the claims indefinite, because it is unclear if or to what extent the language denoted by "may" is optional. Within the first line of claim 28, the second occurrence of "or" is incorrect. Additionally, it is unclear what constitutes a "true or derived isocyanate function"; the examiner has considered applicants' remarks at pages 6 and 8 of the specification, concerning the definition of the term; however, the definition is considered to be repugnant to the art recognized definition. One of ordinary skill would not envisage the recited groups as falling within the definition of an isocyanate. Furthermore, applicants' language and its interpretation calls into question exactly what is encompassed by any of applicants' terms which include the term, isocyanate or

polyisocyanate. By this reasoning, it is unclear if any of applicants' tricondensate polyfunctional isocyanate compositions are required to contain any isocyanate groups? Additionally, the definition of m as it pertains to the A structures is unclear; at most the A structures have a valency of three; therefore, it is unclear how m can be 2. Lastly, it is unclear how n can have a definition of 3 or 4, and it is unclear how and where the group containing Q is to be incorporated into the structure. It cannot be determined if the Q containing group is defined for A or B; if for A, how would the R groups be incorporated and if for B, the resulting structure would have an -N-N- linkage.

Within claim 27, it is unclear what is meant by "true isocyanurate polyisocyanate".

Within claims 30-32, the language, "the allophanate composition" and "the unreacted monomers", lacks antecedent basis.

Within claims 33-36, the language, "the amount of bis-allophanate" and "the amount of tris-allophanates", lacks antecedent basis.

Within claim 40, the term, "low-viscosity", is a relative term. It cannot be determined what quantitative range is denoted by the language. Furthermore, it is unclear what constitutes "the desired degree of conversion"; it is unclear how one determines what is "desired".

Within claims 41 and 42, the word, "allophanatation", is incorrect. The word, "allophanatization", is suggested.

Within claim 42, the use of the suffix, "-based", renders the claim indefinite, because it is unclear to what extent the skeletons are derived from hydrocarbons. Further, it is unclear why

"respectively" appears within the second condition. Within line 2 of the claim, the language, "the cyclotrimerization reaction", lacks antecedent basis.

Within line 4 of claim 43, "c_{12}" should be "C_{12}".

Within claim 45, the language, "at least about 25%", renders the claim indefinite, since "about 25%" encompasses values slightly below 25%, it is unclear if the "at least" language when coupled with "about" encompasses these values below 25%. Additionally, without specifying a weight or quantity relationship between the two steps of claim 40 or amounts of products within each of the two steps of claim 40, the claimed weight percent of claim 45 is essentially meaningless.

Within claims 46-53, the term, "reduced-viscosity" is subjective language; it is unclear what the language is relative to. It is unclear what is meant by "true tricondensate polyfunctional isocyanate" and "primary allophanate".

Within claim 53, the language, "advantageously two", renders the claim indefinite, because it is unclear to what extent the language modifies the "at least one" language. This issue is akin to claiming a range within a range within the same claim or specifying a "preferred" range within a claim. It is unclear what is meant by "true tricondensate polyisocyanates", "true trimer", "tricondensates", and "tricondensation reaction".

Within claim 54, the language, "the mixture of allophanates", "the allophanate composition", and "the unreacted monomers", lacks antecedent basis.

Within claim 55, the word, "his-allophanate", is incorrect. Furthermore, the language, "the allophanate composition", lacks antecedent basis.

Within claims 54-58, "isocyanate" has been misspelled.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 46-50, 53, and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 649866.

The reference discloses polyisocyanates containing isocyanurate groups and allophanate groups, wherein the allophanate group content reads on the contents claimed by applicants. See abstract.

6. Claims 53-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobs et al. ('482) or Potter et al. ('018).

Patentees disclose isocyanate compositions comprising monoisocyanurate groups and monoallophanate groups, wherein the weight ratio of monoallophanate to monoallophanate and monoisocyanurate is considered to meet that claimed within claim 53. Furthermore, since the references are directed to the production of monoallophanate groups, the position is taken that applicants' claimed low contents of bis- and tris-allophanates are inherently met by the references. See abstracts.

7. Claims 24-45, 51, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Potter et al. ('018) or Jacobs et al. ('482) or EP 649866.

The references disclose the incorporation of allophanate groups into a trimerized polyisocyanate composition, so as to reduce the viscosity of the composition. See abstracts and columns 1 and 2 within Potter et al. and Jacobs et al.

8. The references are silent regarding the simple admixture of the allophanate component to the isocyanurate component; rather, the references produce the allophanate groups *in situ* within

the isocyanurate containing composition. However, the position is taken that one of ordinary skill in the art would have reasonably expected that the same benefit of decreased viscosity would result from the simple mixing of the components. Therefore, the position is further taken that it would have been obvious to simply mix the separate components, so as to obtain a composition having the benefit of reduced viscosity.

9. Claims 24-26, 28-41, and 43-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woynar et al. ('359).

Patentees disclose polyisocyanate compositions comprising biurets, wherein it is particularly preferred to produce the biuret from hexamethylene diisocyanate. See abstract and column 2, lines 41 and 42. Patentees further teach at column 4, lines 64+ that allophanate groups may be incorporated within the composition, so as to modify the flexibility, bonding, hydrolysis resistance, hardness and/or solvent resistance of the biuret polyisocyanates and the products produced from them. Therefore, the position is taken that it would have been *prima facie* obvious to incorporate a quantity of allophanate groups into a hexamethylene diisocyanate biuret composition, so as to obtain a biuret containing composition having the aforementioned improvements.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (703) 308-2982.

RABON SERGENT
PRIMARY EXAMINER

R. Sergent
September 26, 2002